

CLAIMS:

1. A cell deposition system comprising:
a hand held air-jet sprayer having a nozzle
5 orifice with a pore size sufficient to allow passage of
cells without damage; and
autologous cells,
the system operable to:
dispense the autologous cells using the air-jet
10 sprayer onto an area of a subject lacking normal, healthy
skin; and
grow three dimensional epithelial tissue on the
area lacking normal, healthy skin.
- 15 2. The system of Claim 1, further comprising a
dermal allograft material located in the area lacking
normal, healthy skin.
- 20 3. The system of Claim 1, wherein the autologous
cells further comprise keratinocytes.
4. The system of Claim 1, wherein the autologous
cells further comprise fibroblasts.
- 25 5. The system of Claim 1, wherein the autologous
cells further comprise stem cells.

6. The system of Claim 1, further comprising at least two types of autologous cells, the system further operable to dispense each type of autologous cell separately.

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7. The system of Claim 1, further comprising the system operable to dispense at least one antibiotic, cytokine, adhesion factor, or growth factor.

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8. The system of Claim 1, further comprising an air propellant used in the air-jet sprayer, the air selected from the group consisting of: carbon dioxide, water vapor, oxygen, nitrogen, argon, helium, neon, and any combination thereof.

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9. The system of Claim 1, further comprising the nozzle having a pore size of approximately 1000 micrometers.

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10. The system of Claim 1, further comprising the autologous cells suspended in a soluble medium in the air-jet sprayer, the soluble medium selected from the group consisting of: polyvinyl alcohol, albumin, dextrans, plasma, serum, other blood components, polymers of nucleic acids, and any combination thereof.

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11. A method of dispersing living cells comprising:
suspending autologous cells in a soluble
medium;

5 placing the cells into the receptacle of an
air-jet sprayer having a nozzle orifice with a pore size
sufficient to allow passage of cells without damage; and
dispersing the cells onto an area of a subject
lacking normal, healthy skin using the air-jet sprayer.

10 12. The method of Claim 11, further comprising
placing a dermal allograft into the area lacking normal,
healthy skin.

13. The method of Claim 11, further comprising
15 dispersing the cells onto a tissue scaffold located in
the area lacking normal, healthy skin.

14. The method of Claim 11, wherein the area
lacking normal, healthy skin comprises a wound.

20 15. The method of Claim 11, further comprising
growing a three dimensional epithelial tissue from the
cells in the area lacking normal, healthy skin.

25 16. The method of Claim 11, wherein the autologous
cells further comprise keratinocytes.

17. The method of Claim 11, wherein the autologous
cells further comprise fibroblasts.

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18. The method of Claim 11, wherein the autologous cells further comprise stem cells.

19. The method of Claim 11, further separately
5 dispersing least two types of autologous cells the area lacking normal, healthy skin using the air-jet sprayer.

20. The method of Claim 1, further comprising
dispensing at least one antibiotic, cytokine, adhesion
10 factor, or growth factor onto the lacking normal, healthy skin using the air-jet sprayer.